

# ESTRO

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## **ESTRO background**

I have been a member of ESTRO almost since I first started in medical physics back in 2000. I have attended a range of ESTRO courses as a student, and in 2006 I joined the ESTRO School faculty, as I was given the opportunity to participate in starting up and acting as teacher in the (then) new “Image guidance in Clinical Practice” course. Since then, I have contributed to starting up and teaching four additional courses, and I am currently part of the faculty for the “Research course in Radiotherapy Physics”.

Recently, I had the privilege to take part in the working group for the joint ESTRO-EFOMP effort to update the medical physics core curriculum, as representative for the Danish Society of Medical Physics.

In the immediate future, I will act as chair of the new Medical Physics Future task group “Artificial Intelligence in Radiation Oncology”. I am very much looking forward to this – I truly believe that AI will have a high and valuable impact on the future of radiotherapy, and it is a focus point in my own research group. Not least, it is moreover an effort that comes out of one of my favourite ESTRO activities – the annual ESTRO Physics Workshops.

My involvement with ESTRO has been invaluable to me – I continue to learn so much, both at courses and conferences, and I have met so many people whom I consider both colleagues and friends. The networking opportunities within ESTRO give rise to new collaborations and projects, and I urge all of my students to make the most of it through attending as many ESTRO events as they can squeeze into their schedules.

## **Experience**

Throughout my medical physics life, I have been working with development and implementation of new technological solutions – e.g., respiratory gating, VMAT and IGRT. My focus now is on application of data science in radiotherapy (including proton therapy), and my research group works with deep learning for image segmentation, data mining in large data sets of images and treatment plans, and individualised risk modelling.

I have spent four sabbaticals in the United States, three of them within medical physics (Stanford University Cancer Center 2003-4; and University of Wisconsin-Madison 2009-10 and 2015-16).

I hold several research grants from various Danish funding agencies, and am involved in three EU projects; INSPIRE, STOPSTORM and RAPTOR.

2018 to date	Professor of Medical Physics, Dept of Clinical Medicine, Aarhus University. Department of Oncology and Danish Center for Particle Therapy, Aarhus University Hospital. Deputy director of the Danish National Research Center in Radiotherapy. Founder of new interdisciplinary research group for computational medical physics, including physicists, computer scientists, engineers, dosimetrists, and oncologists.
2015-18	Associate professor of Medical Physics, Dept of Clinical Medicine, Aarhus University.
2010-15	Head of Department of Science, Systems and Models, and Dean of Natural Sciences, Roskilde University. Overall responsibility for education and research at bachelor, master and PhD levels in natural sciences. Medical physicist, Department of Radiation Oncology, Rigshospitalet, Copenhagen.
2000-10	First clinical implementation for routine use of VMAT(RapidArc) technique. Collaboration with Varian Medical Systems, Inc, RapidArc Consortium. Development of new technique for respiratory gating during radiotherapy for breast cancer, including initiation of clinical trial.

### **Education and qualifications**

Before I entered the field of medical physics, I did my master's degree in physics and computer science and followed that with a PhD in experimental biophysics. I had no idea medical physics existed until my mother received radiotherapy during the last year of my PhD studies, and enthusiastically told me about her meeting with a physicist in the radiotherapy clinic. A year later, that physicist was my colleague at Rigshospitalet in Copenhagen, where I did my training in clinical medical physics, and received my certification by the Danish National Board of Health in clinical physics.

Later, I supplemented my competencies with several leadership training courses, including courses in management for gender diversity and for entrepreneurial innovation.

I maintain close ties with both academia and the clinic, being employed at teaching at the university, while having my office and daily life at the hospital.

## **Personal**

I was born in Denmark, where I have lived most of my life, except for a few detours to the US for research sabbaticals. I have been together with my husband, Joe, since we first met at university more than 30 years ago. He is a climate researcher, and a bluegrass musician. Music (both playing and listening) is a big part of our lives. We have four sons, all of whom share our great interest in both science and music. Whether that is a result of nature or nurture is hard to know, but I can safely say that they have been exposed to a fair amount of science talk during their childhood (quote from our youngest son: "Can't we just sometimes have a normal dinner conversation, about regular stuff, like any other family?")

We live in the countryside, and I grow vegetables in our garden with a dedicated goal towards becoming (almost) self-sufficient. As long as I combine a patient mindset with a generous view on the beauty of weeds, this is a very fulfilling pastime which takes me away from the computer screen every now and then.

## **Candidate statement**

So why should you vote for me?

I strongly believe that ESTRO is an indispensable instrument in the mission to achieve optimal care for all – and it is the activities facilitated by ESTRO and through which we interact, that makes this happen. I will work to continue and develop ESTRO activities with a focus on international networking and interdisciplinary collaboration.